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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
08/850,996	05/05/1997	GEORGE LYDECKER	3464/3	5497

7590 05/23/2002

ALLEN I RUBENSTEIN
GOTTLIEB RACKMAN & REISMAN
270 MADISON AVENUE
NEW YORK, NY 10016

EXAMINER

MEI, XU

ART UNIT	PAPER NUMBER
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2644

DATE MAILED: 05/23/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary

Application No.

08/850,996

Applicant(s)

Lydecker et al.

Examiner

Xu Mei

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on Mar 4, 2002

2a) ☐ This action is FINAL.

2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 35 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) 1-14 and 21-38 is/are pending in the applica

4a) Of the above, claim(s) _____ is/are withdrawn from considera

5) ☒ Claim(s) 1-14 is/are allowed.

6) ☒ Claim(s) 21-38 is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claims _____ are subject to restriction and/or election requirem

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☐ All b) ☐ Some* c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. _____.

3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

4) ☐ Interview Summary (PTO-413) Paper No(s). _____

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

5) ☐ Notice of Informal Patent Application (PTO-152)

3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____

6) ☐ Other:

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DETAILED ACTION

1. This communication is responsive to the applicant's Appeal Brief dated 03/04/2002.

2. Applicant's argument in the Appeal Brief in regard to the rejection based on the Davis reference and finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

Newly discovered reference(s) to Nagata et al is deemed appropriate to the instant claimed invention. Rejections based on the newly cited reference(s) follow.

Claim Rejections - 35 U.S.C. § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 21-25, 28-30, 31-32 and 33-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagata et al (US-5,974,154, hereinafter, Nagata).

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Nagata discloses playback system (Figs. 1, 6, 8 and 9) for reproducing audio signals from a data stream containing audio data and control data (i.e., audio input data or a plurality of programs for a plurality of sound field types being recorded and stored in memory), the control data being related to characteristics presented in an acoustic environment (different programs corresponding to various typical rooms such as a concert-hall and a live house, the characteristics present in the acoustic environment). The playback system is adapted to convert audio data (i.e., input data or a plurality of programs) into audio signals at a local playback site in accordance with the control data to recreate the acoustic environment. The audio playback system including a preset mode storage and a user mode storage. The preset mode storage stores the plurality of programs Prg.1-Prg.n for a plurality sound field types, which are designed to create a sound field in a general virtual room. The user edits these original programs (audio data) in matching with a specific actual room in which the system is installed (the original environment where the programs are being recorded), see Col. 8, line 25-Col. 9, line 14. Nagata also discloses gain control circuit, delay circuit, reverberation circuit for processing the audio data and the control data. What's not taught by Nagata is the playback system including a demultiplexer arranged to separate the audio data and control data. It is old

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and well known in the art to includes multiplexer for encoding different types of data to increase storage capacity of the memory and demultiplexer to decode/separate the different types of data back to its original form. To further include a demultiplexer for the DSP or microprocessor as taught by Nagata to separate different types of data for signal processing would have been obvious to one of ordinary skill in the art.

Regarding claims 28-29, audio signal compensation including active noise cancellation (ANC) system (auto volume control according to ambient noise, for example) is old and well known in the audio art. It would have been obvious to one of ordinary skill in the art to modify the system taught by Nagata with a well known ANC system in order to generates clearer audio output with the system including auto ambient noise control capability.

5. Claims 26-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagata in view of Begault (US-5,438,623).

Regarding claims 26-27, Begault discloses a HRTF audio reproducing system with a loop closing subsystem interfaced to a playback system with delay means, signal (i.e., test or any type of audio signal) generator, precision microphones for producing a sound output corresponding to received audio processed signal to increase stereophonic effect of the audio signals perceived by the listener. It would have been obvious for one of ordinary

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skill in the art to combines the teachings of Nagata and Begault in order to have an improve audio playback system with greater stereophonic perception effect for the listener.

Allowable Subject Matter

6. Claims 1-14 are allowed over prior art of record.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Matsuo, Terano, and Matcalf are made of record here as pertinent art to the claimed invention. The cited references discloses various sound processing system with memory means which including difference audio sound field characteristic data for recreating audio performances.

8. **Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121
Crystal Drive, Arlington. VA., Sixth Floor (Receptionist).


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9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Xu Mei whose telephone number is 703-308-6610. The examiner can normally be reached on Monday-Friday (9:30-6:00), alternate Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Forester W Isen can be reached on 703-305-4386.

The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is 703-306-0377.


Xu Mei
Primary Examiner
Art Unit 2644
05/16/2002